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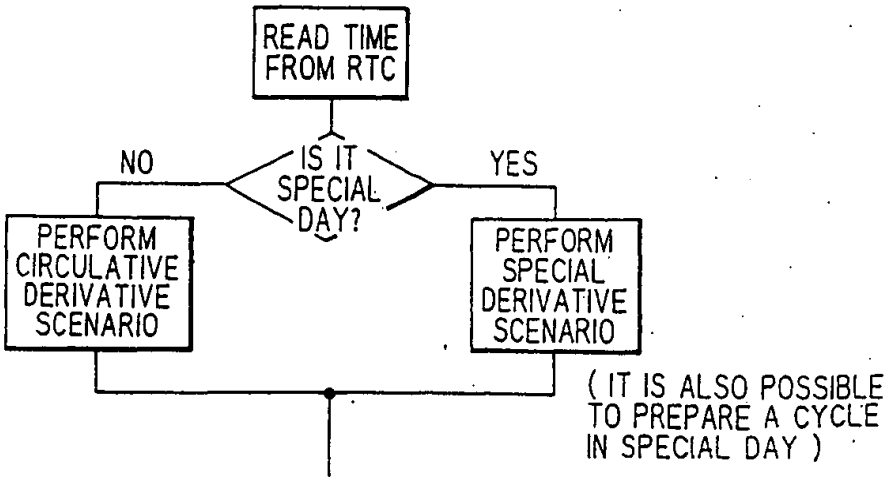
(54) Method for performing a plurality of derivative scenario in a video game program

(57) A method of performing a plurality of derivative scenarios in a program for a home television game machine. The method comprises the steps of generating a time, generating a plurality of derivative scenarios according to the passing of the time, and periodically changing between performance of derivative scenarios respective of a period of time. The step of periodically changing between performance of derivative scenarios may be such that the derivative scenarios circularly change upon the elapse of the period of time.

FIG. 3



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Description

This invention relates to a method for performing aderivative scenario in a game program operated on a hometelevision game machine, and more particularly to, a method for performing a derivative scenario in a game program which is proceeded in the process of time.

Recently, a home television game machine which is provided with a timer is developed. Also, a personal computer game software which employs a timer function is developed.

In general, a home television game is proceeded along a story described on a program. Because of this, in a game programmed to play with a computer, when the story or pattems of the game is almost known by a player, the player will not be so interested in playing it. Particularly in a role playing game, which always proceeds along the story programmed, it will be boring when the story is almost known. To provide the game story with unexpectedness or reality, some methods are suggested in which a scenery or surrounding is given according to the real time based on the timer in the game machine or the difficulty of the game is changed by generating random numbers.

On the other hand, there are some games in which real time of clock(actual living time) is adopted, where a derivative scenario is generated at a predetermined time such as a specific date of a specific month or in a predetermined time period of a specific date to another specific date. Here, the programs of such games need to be described such that each time corresponds to each derivative scenario to generate each derivative scenario in the process of time. Therefore, if a certain event is prepared as a derivative scenario in a game every day, 366(365 days + one day in leap year) derivative scenarios will be needed in a year. Furthermore, if an hour, minute or day of the week is related to that, a huge amount of scenarios are required. For example, if derivative scenarios, as shown in FIG.1, are prepared corresponding to a month, day and time, the game requires a huge amount of scenarios.

Thus, the event must be generated at intervals of some days or with the frequency of once a month or a day at the most, since there is a limitation to the program size in the home television game machine. In typical cases, the occurrence of derivative scenario is defined on the basis of a time period such as several hours or days after from a base time.

Meanwhile, 'event' means a ceremony or affair such as a festival, a fair and washing. 'Derivative scenario' means a story for proceeding an event which is performed branching from a basic scenario. The more derivative scenarios the game has, the more the various developments in the game the player can enjoy. In case of having no derivative scenario, though the game can be performed along the basic story, the process of the game becomes monotonous.

However, in the conventional game softwares in which real time of clock (actual living time) is adopted, the number of derivative scenarios is, as explained above, limited due to the limited size of the game program applicable to the home television game machine.

Accordingly, it is an object of the invention to provide a method for performing a derivative scenario in a game program in which a certain derivative scenario can always be performed in the process of real time even under the limitation on the program size applicable to a home television game machine.

According to the invention there is provided a method of performing a plurality of derivative scenarios in a program for a home television game machine comprising the steps of: generating a time; generating a plurality of derivative scenarios according to the passing of the time; periodically changing between performance of derivative scenarios respective of a period of time.

The method may further comprise the steps of: generating a further derivative scenario; and performing the further derivative scenario at a specific time.

Also according to the present invention there is provided an apparatus comprising: means for generating a time; means for generating a plurality of derivative scenarios according to the passing of the time; and means for periodically changing between performance of derivative scenarios respective to a period of time.

Preferably, the means for periodically changing between performance of derivative scenarios is such that the derivative scenarios circularly change upon the elapse of the period of time.

The invention will be explained in more detail in conjunction with the appended drawings, wherein:

FIG.1 shows the conventional derivative scenario in which each date and time corresponds to each event,

FIG.2 is a block diagram showing a ROM cartridge with the built-in RTC(real time clock) and a home television game machine which are employed in a preferred embodiment according to the invention,

FIG.3 shows a flow chart showing a logic applicable to the preferred embodiment according to the invention, and

FIG.4 shows a scene of a derivative scenario in the preferred embodiment according to the invention.

A method for performing a derivative scenario in a game program in the preferred embodiment will be explained below.

In the embodiment, an external storage device which has a built-in RTC(real time clock) is employed. Here, RTC is an integrated circuit which has the functions of a clock and a calendar. RTC can be accessed by CPU of a game machine. RTC is backed up by a battery, therefore, even if the power of a game machine main body is shut off, it continues to tick away accurate time.

FIG.2 shows a relationship between a ROM car-

tridge with the built-in RTC and a home television game machine. The ROM cartridge 2 with the built-in RTC is connected to the main body 1 of the game machine through interfaces 3A, 3B.

RTC 4 built in the ROM cartridge 2 automatically ticks away year, month, day, hour, minute and second or day of the week. RTC 4 is backed up by a battery 5 and ticks away independent of the game machine main body 1. CPU 6 of the game machine can read and utilize the time of RTC 4 or can renew the time of RTC. A game software is stored in ROM 7 to be transferred to RAM 10. The game machine main body 1 has ROM for storing an operation program.

In case that RTC is not built in the ROM cartridge 2, a timer means included in the main body 1 of the game machine may be used to achieve the invention.

A method for changing N derivative scenarios every time T by using the above RTC will be explained below. Here, all numerical variables to be used herein are integers more than 0. Further, since RTC ticks away a year, month, day, hour, minute, second and day of the week, a word hereinafter called 'unit' means a time unit such as a day, hour, minute and second. Also, 'a unit higher than a unit' means a unit on the left of a base unit, for example, a unit higher than a minute is a hour, day or month. A figure is taken up by time units while ten units takes up one figure in the decimal system. Besides, a base time means one second, one minute, one hour, one day etc.

At first, a minimum circulative time L is given by the following equation:

$$L=T \times N$$

where T represents a time period for which each derivative scenario is performed and N represents a number of derivative scenarios to be prepared.

Next, M is considered which gives a unit time higher than L. Here, M satisfies the next relation:

$$M=L \times I \qquad (I \geq 1)$$

where I is a natural number to make M a unit time.

Since M can be expressed by the unit time, a time can be converted into the unit of L by taking out only a value which is lower than the unit time by which M is expressed and which is equal to the unit of L or more than the unit of L. Now, a value e to be converted is considered. The value e satisfies the next relation:

$$0 \leqq e < M$$

On the other hand, a time E(i,n) less than M when a derivative scenario sn($1 \leqq n \leqq$) is generated is expressed as:

$$0 \leqq E(i,n) < M \qquad (1 \leqq i \leqq I)$$

which is actually expressed by the same time axis as the above value e.

Furthermore, the relationship between E(i,n) and n is expressed by the next equation:

$$n = (E(i,n)\%L)/T + 1 \qquad (1)$$

where % means an operation of giving a remainder of a division, for example, (10%8) means a remainder of 2 obtained from the division of 10 by 8.

Considering the above equation and relation, where a time is converted into e, n is obtained by the next equation:

$$n = (e\%L)/T + 1$$

Thus, a n-th derivative scenario Sn of N derivative scenarios can be selected and performed.

Next, an example of this embodiment will be further in detail explained. The example takes the case that a ship has three destinations of A, B and C which change circulatively in the order of A → B→ C→ A... every five minutes. Herein, the derivative scenarios are, as shown in FIG.1, of the destinations of A, B and C.

Table 1

n	destination
1	A
2	B
3	C

Since the number of derivative scenarios to be prepared is three and the time period T for which each derivative scenario is performed is 5(minutes), the minimum circulative time L is calculated by the next equation:

$$L=5X3=15(\text{minutes})$$

Then, considering to obtain a unit time higher than the unit of L, L is multiplied by I(=4) to give M with a unit time of 1.

$$M=15X4=60(\text{minutes})=1(\text{hour})$$

Thus, the time can be compared on the basis of one hour.

When the current time(real time) in the format of 'yy' year, 'mm' month, 'dd' day, 'hh' hour, 'mm' minute, 'ss' second and 'w' day of the week is read out from RTC, e

to satisfy $0 \leq e < 1$(hour) is mm(minute). Since e is equal to E in equation (1), n, which is a destination in Table 1, is determined by the next equation:

$$n=(mm\%15)/5 + 1$$

For example, if mm is 50 minutes, from the value n:

$$n=(50\%15)/5 + 1=5/5 + 1=2$$

the destination is determined to be B.

Furthermore, another example of the embodiment will be explained, where provided is a circulative derivative scenario that a shop is closed only on Sundays. In this case, since a day of the week is concerned, the minimum circulative time M is one week. When each of the days of Monday to Sunday is numbered as W(corresponding to E in equation (1)) as shown in Table 2, from the number N(=7) of derivative scenarios and the performing time cycle T(=1(day)), n, a state of business is obtained by the next equation:

$$n=(W\%7)/1 + 1$$

Thus, by preparing an open shop derivative scenario to n of 1 to 6(Monday to Saturday) and a closed shop derivative scenario to 7(Sunday), the circulative derivative scenario that a shop is closed only on Sundays can be performed.

Table 2

W	day of the week
0	Monday
1	Tuesday
2	Wednesday
3	Thursday
4	Friday
5	Saturday
6	Sunday
n	state of business
1 to 6	open
7	closed

For example, if the day in a time read out from RTC is Tuesday, where W= 1 is assigned, then, n is obtained by the
next equation:

$$n=(1\%7)/1 + 1=1/1 + 1=2$$

Namely, based on Table 2, a derivative scenario for Tuesday will be performed. Though, in this example, the derivative scenario can be directly selected by the value W, i.e., directly calculated as n=W+1, the other complex circulative derivative scenarios with which a day of the week and an hour are related may be prepared. In case of preparing the single open shop derivative scenario to n of 1 to 6(Monday to Saturday) as shown in Table 2, the same derivative scenario is commonly performed. In case of changing an article on sale each day of the week, it is necessary to prepare different derivative scenarios.

As explained above, by generating a limited number of circulative derivative scenario which is in advance prepared, a certain derivative scenario can be performed all the year, therefore making the content of the game more enjoyable. Moreover, since the number of derivative scenario is limited, the size of the program can be saved.

In addition, a special derivative scenario other than the circulative derivative scenario may be performed. An example of the logic of the special derivative scenario is as shown in FIG.3.

For example, a special derivative scenario that a special Christmas sale is held on December 24 regardless of a day of the week may be prepared as a circulative derivative scenario, and it may be performed prior to the usual circulative derivative scenario. Meanwhile, a derivative scenario as held only one or two times a year has little meaning to be incorporated into a game program. Thus, such long-cycle circulative derivative scenario should be performed prior to a short-cycle derivative scenario.

FIG.4 shows a scene of the above-mentioned derivative scenario in which the destination of the ship changes every five minutes. In this scene, a boatman tells a hero " Now, it's bound for 'fire village'. The Destination changes every five minutes. Next, it's bound for 'water village'". The hero is a character for a player which can be moved by a key operation of the player. Since this game is a so-called role playing game, the player plays the hero in the game. When the hero wants to go the water village, he can kill time doing another thing while waiting, then coming back to the wharf after five minutes to get on board the ship for the water village. However, if ten minutes passed, the ship for the water village will have been started, then he must wait further ten minutes to go on board the ship for the water village. Since it is a real time that RTC ticks away, the player can play the game while looking his wrist watch or while looking a clock which can be displayed on the television screen by a key operation of the player. In this case, it is necessary for the player to watch the time to smoothly proceed the game.

Although the invention has been described with respect to specific embodiment for complete and clear disclosure, the appended claims are not to be thus limited but are to be construed as embodying all modification and alternative constructions that may be occurred to

one skilled in the art which fairly fall within the basic teaching here is set forth.

Claims

1. A method of performing a plurality of derivative scenarios in a program for a home television game machine comprising the steps of:

   generating a time;
   generating a plurality of derivative scenarios according to the passing of the time; and
   periodically changing between performance of derivative scenarios respective of a period of time.

2. A method according to claim 1, wherein the step of periodically changing between performance of derivative scenarios is such that the derivative scenarios circularly change upon the elapse of the period of time.

3. A method according to claim 1 or claim 2, wherein the period of time is one or more years, months, weeks, days of the week, hours, or seconds.

4. A method according to claims 1,2 or 3, further comprising the steps of:

   generating a further derivative scenario; and
   performing the further derivative scenario at a specific time.

5. A method according to claim 4, wherein the specific time is prior to the step of performing the plurality of derivative scenarios.

6. A method according to claim 4 or claim 5, wherein the further derivative scenario comprises periodically changing between performance of derivative scenarios respective to a second period of time.

7. A method according to claim 6, wherein the second period of time is one or more years, months, weeks, days of the week, hours, or seconds.

8. An apparatus comprising:

   means for generating a time
   means for generating a plurality of derivative scenarios according to the passing of the time; and
   means for periodically changing between performance of derivative scenarios respective to a period of time.

9. An apparatus according to claim 8, wherein the means for periodically changing between performance of derivative scenarios is such that the derivative scenarios circularly change upon the elapse of the period of time.

10. An apparatus according to claim 8, further comprising:

    means for generating a further derivative scenario; and
    means for performing the further derivative scenario at a specific time.

11. An apparatus according to claims 8, 9 or 10, wherein the means for generating a time is provided in a main body of a game machine.

12. An apparatus according to claim 8, 9 or 10, wherein the means for generating a time is provided in a removable cartridge of a game machine.

FIG. 1 PRIOR ART

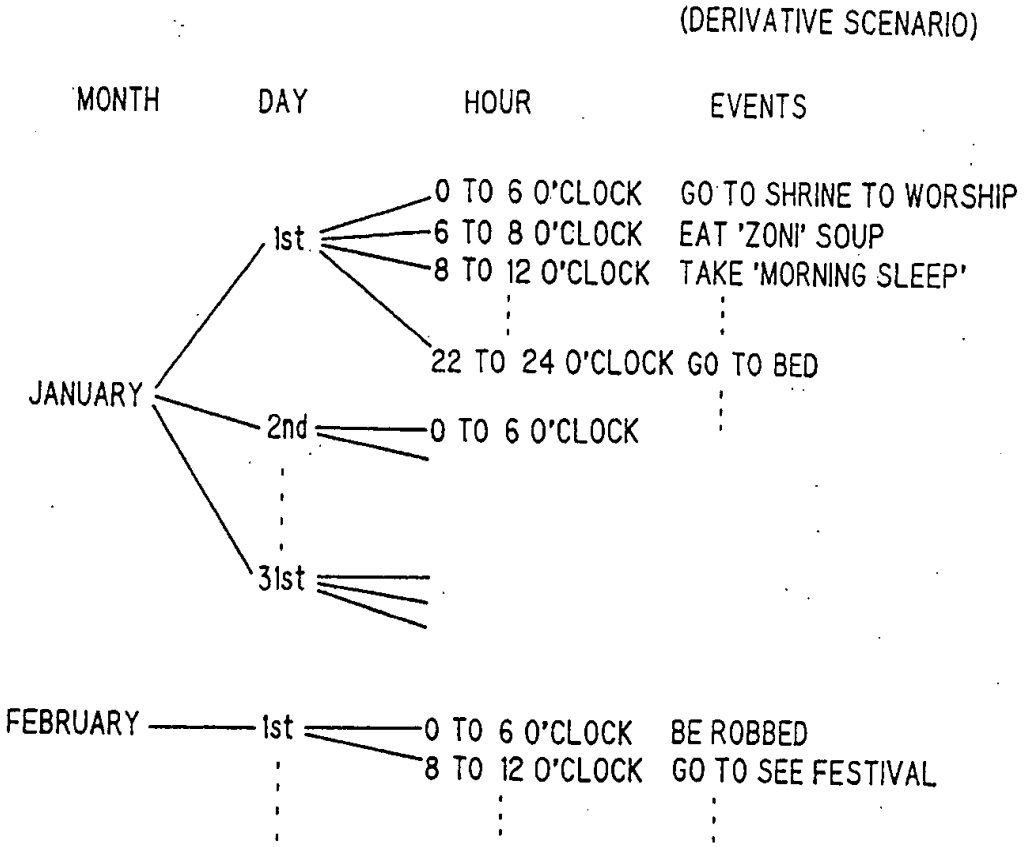


FIG. 2

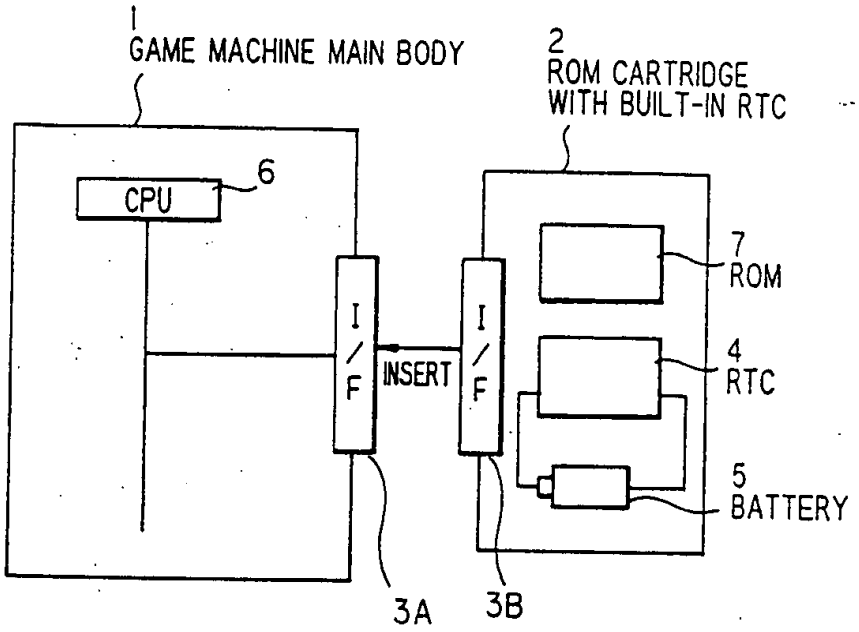

1
GAME MACHINE MAIN BODY
2
ROM CARTRIDGE
WITH BUILT-IN RTC
CPU
6
I/F
INSERT
I/F
7
ROM
4
RTC
5
BATTERY
3A
3B

FIG. 3

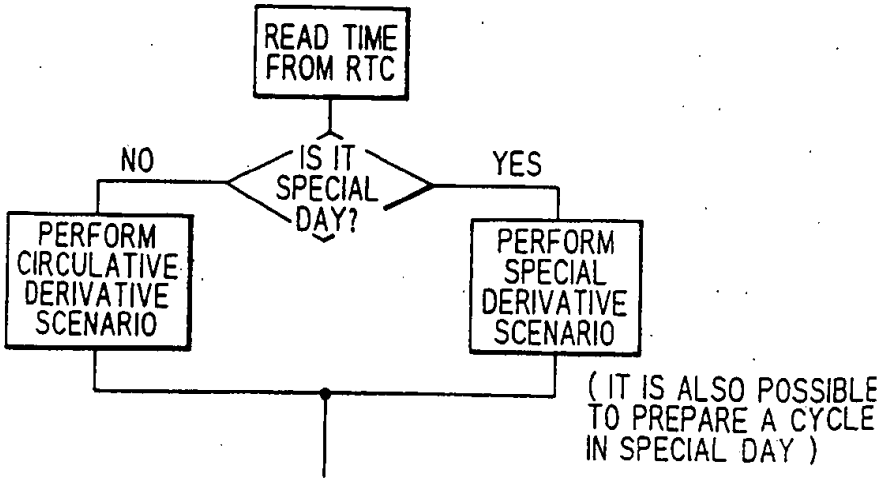
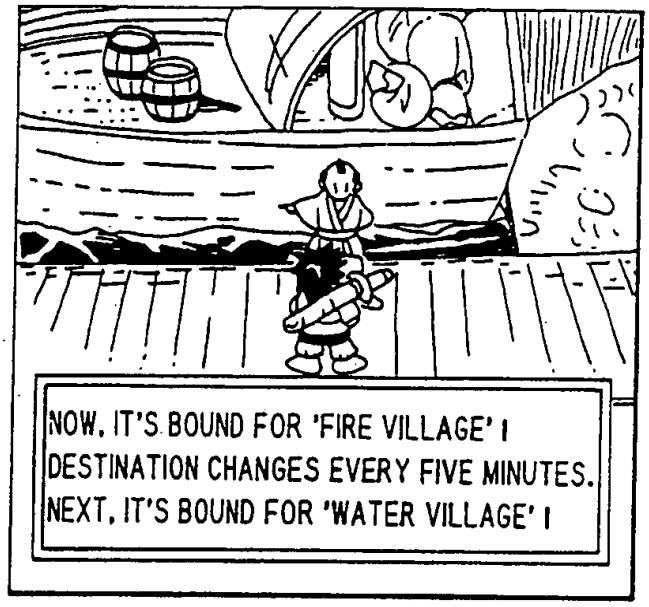

READ TIME FROM RTC
IS IT SPECIAL DAY?
NO
YES
PERFORM CIRCULATIVE DERIVATIVE SCENARIO
PERFORM SPECIAL DERIVATIVE SCENARIO
(IT IS ALSO POSSIBLE TO PREPARE A CYCLE IN SPECIAL DAY)

FIG. 4


NOW, IT'S BOUND FOR 'FIRE VILLAGE' !
DESTINATION CHANGES EVERY FIVE MINUTES.
NEXT, IT'S BOUND FOR 'WATER VILLAGE' !

(19) Europäisches Patentamt
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(30) Priority: **25.12.1995 JP 350905/95**

(71) Applicant: **HUDSON SOFT CO., LTD.**
Sapporo-shi, Hokkaido 062 (JP)

(72) Inventor: **Aoyama, Koji, c/o Hudson Soft Co., Ltd.**
Sapporo-shi, Hokkaido (JP)

(74) Representative: **Brunner, Michael John**
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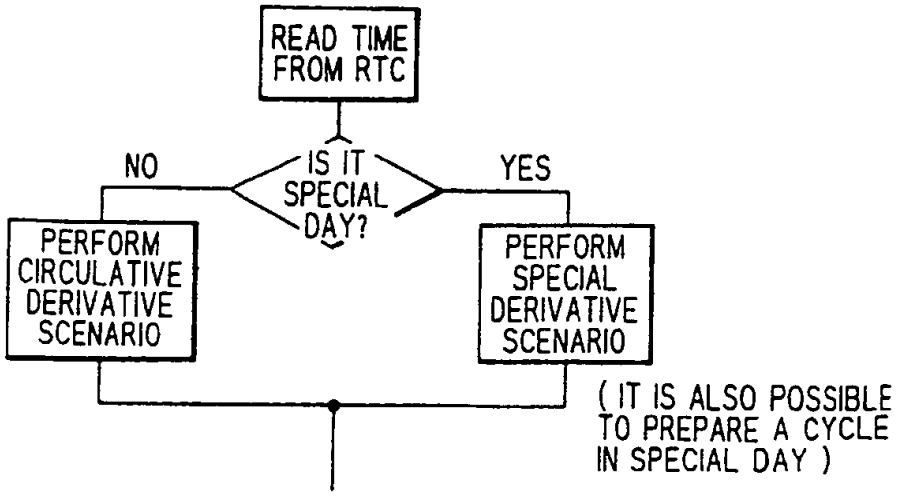
(54) Method for performing a plurality of derivative scenario in a video game program

(57) A method of performing a plurality of derivative scenarios in a program for a home television game machine. The method comprises the steps of generating a time, generating a plurality of derivative scenarios according to the passing of the time, and periodically changing between performance of derivative scenarios respective of a period of time. The step of periodically changing between performance of derivative scenarios may be such that the derivative scenarios circularly change upon the elapse of the period of time.

FIG. 3



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European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 96 30 9381

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
E	US 5 604 855 A (CRAWFORD CHRISTOPHER C) * column 3, line 8 - line 37 * * column 5, line 12 - line 16 * * column 5, line 36 - line 39 * * column 6, line 13 - line 14 * * column 6, line 28 - line 57 * * column 11, line 11 - line 29 * * column 11, line 58 - column 12, line 3 *	1,3-8, 10,11	A63F9/22 //G06F161:00
A	US 5 474 453 A (COPPERMAN NORMAN S) * column 1, line 65 - column 2, line 6 * * column 2, line 40 - line 42 * * column 2, line 66 - column 3, line 4 * * column 10, line 20 - line 32 *	1,4	
A	US 5 267 734 A (STAMPER TIMOTHY D J ET AL) * column 2, line 46 - line 53 * * column 5, line 65 - column 6, line 10 * * column 6, line 24 - line 28 *	1,8,12	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

A63F
G06F
G06T
G09B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	30 January 1998	Sindic, G

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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& : member of the same patent family, corresponding document

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Method for performing a plurality of derivative scenario in a video game program

Patent Number: EP0785006
Publication date: 1997-07-23
Inventor(s): AOYAMA KOJI (JP)
Applicant(s): HUDSON SOFT CO LTD (JP)
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Priority Number(s): JP19950350905 19951225
IPC Classification: A63F9/22
EC Classification: A63F13/10
Equivalents: CA2192766, CN1160248, JP9173640, US5807173
Cited Documents: US5604855; US5474453; US5267734

Abstract

A method of performing a plurality of derivative scenarios in a program for a home television game machine. The method comprises the steps of generating a time, generating a plurality of derivative scenarios according to the passing of the time, and periodically changing between performance of derivative scenarios respective of a period of time. The step of periodically changing between performance of derivative scenarios may be such that the derivative scenarios circularly change upon the elapse of the period of time.

Description

This invention relates to a method for performing aderivative scenario in a game program operated on a hometelevision game machine, and more particularly to, a method for performing a derivative scenario in a game program which is proceeded in the process of time.

Recently, a home television game machine which is provided with a timer is developed. Also, a personal computer game software which employs a timer function is developed.

In general, a home television game is proceeded along a story described on a program. Because of this, in a game programmed to play with a computer, when the story or patterns of the game is almost known by a player, the player will not be so interested in playing it. Particularly in a role playing game, which always proceeds along the story programmed, it will be boring when the story is almost known. To provide the game story with unexpectedness or reality, some methods are suggested in which a scenery or surrounding is given according to the real time based on the timer in the game machine or the difficulty of the game is changed by generating random numbers.

On the other hand, there are some games in which real time of clock(actual living time) is adopted, where a derivative scenario is generated at a predetermined time such as a specific date of a specific month or in a predetermined time period of a specific date to another specific date. Here, the programs of such games need to be described such that each time corresponds to each derivative scenario to generate each derivative scenario in the process of time. Therefore, if a certain event is prepared as a derivative scenario in a game every day, 366(365 days + one day in leap year) derivative scenarios will be needed in a year.

Furthermore, if an hour, minute or day of the week is related to that, a huge amount of scenarios are required.For example, if derivative scenarios, as shown in FIG.1, are prepared corresponding to a month, day and time, the game requires a huge amount of scenarios.

Thus, the event must be generated at intervals of some days or with the frequency of once a month or a day at the most, since there is a limitation to the program size in the home television game machine. In typical cases, the occurrence of derivative scenario is defined on the basis of a time period such as several hours or days after from a base time.

Meanwhile, 'event' means a ceremony or affair such as a festival, a fair and washing. 'Derivative scenario' means a story for proceeding an event which is performed branching from a basic scenario. The more derivative scenarios the game has, the more the various developments in the game the player can enjoy. In case of having no derivative scenario, though the game can be performed along the basic story, the process of the game becomes monotonous.

However, in the conventional game softwares in which real time of clock (actual living time) is adopted, the number of derivative scenarios is, as explained above, limited due to the limited size of the game program applicable to the home television game machine.

Accordingly, it is an object of the invention to provide a method for performing a derivative scenario in a game program in which a certain derivative scenario can always be performed in the process of real time even under the limitation on the program size applicable to a home television game machine.

According to the invention there is provided a method of performing a plurality of derivative scenarios in a program for a home television game machine comprising the steps of: generating a time; generating a plurality of derivative scenarios according to the passing of the time; periodically changing between performance of derivative scenarios respective of a period of time.

The method may further comprise the steps of: generating a further derivative scenario; and performing the further derivative scenario at a specific time.

Also according to the present invention there is provided an apparatus comprising: means for generating a time; means for generating a plurality of derivative scenarios according to the passing of the time; and means for periodically changing between performance of derivative scenarios respective to a period of time.

Preferably, the means for periodically changing between performance of derivative scenarios is such that the derivative scenarios circularly change upon the elapse of the period of time.

The invention will be explained in more detail in conjunction with the appended drawings, wherein:

FIG.1 shows the conventional derivative scenario in which each date and time corresponds to each event,
FIG.2 is a block diagram showing a ROM cartridge with the built-in RTC(real time clock) and a home television game machine which are employed in a preferred embodiment according to the invention,
FIG.3 shows a flow chart showing a logic applicable to the preferred embodiment according to the invention, and
FIG.4 shows a scene of a derivative scenario in the preferred embodiment according to the invention.

A method for performing a derivative scenario in a game program in the preferred embodiment will be explained below.

In the embodiment, an external storage device which has a built-in RTC(real time clock) is employed. Here, RTC is an integrated circuit which has the functions of a clock and a calendar. RTC can be accessed by CPU of a game machine. RTC is backed up by a battery, therefore, even if the power of a game machine main body is shut off, it continues to tick away accurate time.

FIG.2 shows a relationship between a ROM cartridge with the built-in RTC and a home television game machine. The ROM cartridge 2 with the built-in RTC is connected to the main body 1 of the game machine through interfaces 3A, 3B.

RTC 4 built in the ROM cartridge 2 automatically ticks away year, month, day, hour, minute and second or day of the week. RTC 4 is backed up by a battery 5 and ticks away independent of the game machine main body 1. CPU 6 of the game machine can read and utilize the time of RTC 4 or can renew the time of RTC. A game software is stored in ROM 7 to be transferred to RAM 10. The game machine main body 1 has ROM for storing an operation program.

In case that RTC is not built in the ROM cartridge 2, a timer means included in the main body 1 of the game machine may be used to achieve the invention.

A method for changing N derivative scenarios every time T by using the above RTC will be explained below. Here, all numerical variables to be used herein are integers more than 0. Further, since RTC ticks away a year, month, day, hour, minute, second and day of the week, a word hereinafter called 'unit' means a time unit such as a day, hour, minute and second. Also, 'a unit higher than a unit' means a unit on the left of a base unit, for example, a unit higher than a minute is a hour, day or month. A figure is taken up by time units while ten units takes up one figure in the decimal system. Besides, a base time means one second, one minute, one hour, one day etc.

At first, a minimum circulative time L is given by the following equation:
L=T X N
where T represents a time period for which each derivative scenario is performed and N represents a number of derivative scenarios to be prepared.

Next, M is considered which gives a unit time higher than L. Here, M satisfies the next relation:
M=L X I (I>/= 1)
where I is a natural number to make M a unit time.

Since M can be expressed by the unit time, a time can be converted into the unit of L by taking out only a value which is lower than the unit time by which M is expressed and which is equal to the unit of L or more than the unit of L. Now, a value e to be converted is considered. The value e satisfies the next relation:
0

On the other hand, a time E(i,n) less than M when a derivative scenario sn(1 0 C-> A... every five minutes. Herein, the derivative scenarios are, as shown in FIG.1, of the destinations of A, B and C.
Id=Table 1 Columns=2

Head Col 1: n
Head Col 2: destination
1A
2B
3C

Since the number of derivative scenarios to be prepared is three and the time period T for which each derivative scenario is performed is 5(minutes), the minimum circulative time L is calculated by the next equation:
L=5X3=15(minutes)

Then, considering to obtain a unit time higher than the unit of L, L is multiplied by I(=4) to give M with a unit time of 1.
M=15X4=60(minutes)=1(hour)

Thus, the time can be compared on the basis of one hour.

When the current time(real time) in the format of 'yy' year, 'mm' month, 'dd' day, 'hh' hour, 'mm' minute, 'ss' second and 'w' day of the week is read out from RTC, e to satisfy 0 n=(mm%15)/5 + 1

For example, if mm is 50 minutes, from the value n:
n=(50%15)/5 + 1=5/5 + 1=2

the destination is determined to be B.

Furthermore, another example of the embodiment will be explained, where provided is a circulative derivative scenario that a shop is closed only on Sundays. In this case, since a day of the week is concerned, the minimum circulative time M is one week. When each of the days of Monday to Sunday is numbered as W(corresponding to E in equation (1)) as shown in Table 2, from the number N(=7) of derivative scenarios and the performing time cycle T(=1(day)), n, a state of business is obtained by the next equation:
n=(W%7)/1 + 1

Thus, by preparing an open shop derivative scenario to n of 1 to 6(Monday to Saturday) and a closed shop derivative scenario to 7(Sunday), the circulative derivative scenario that a shop is closed only on Sundays can be performed.
Id=Table 2 Columns=2

Head Col 1: W
Head Col 2: day of the week
0Monday
1Tuesday
2Wednesday
3Thursday
4Friday
5Saturday
6Sunday

Head Col 3: n
Head Col 4: state of business
1 to 6open
7closed

For example, if the day in a time read out from RTC is Tuesday, where W= 1 is assigned, then, n is obtained by the
next equation:
n=(1%7)/1 + 1=1/1 + 1=2

Namely, based on Table 2, a derivative scenario for Tuesday will be performed. Though, in this example, the derivative scenario can be directly selected by the value W, i.e., directly calculated as n=W+1, the other complex circulative derivative scenarios with which a day of the week and an hour are related may be prepared. In case of preparing the single open shop derivative scenario to n of 1 to 6(Monday to Saturday) as shown in Table 2, the same derivative scenario is commonly performed. In case of changing an article on sale each day of the week, it is necessary to prepare different derivative scenarios.

As explained above, by generating a limited number of circulative derivative scenario which is in advance prepared, a certain derivative scenario can be performed all the year, therefore making the content of the game more enjoyable. Moreover, since the number of derivative scenario is limited, the size of the program can be saved.

In addition, a special derivative scenario other than the circulative derivative scenario may be performed. An example of the logic of the special derivative scenario is as shown in FIG.3.

For example, a special derivative scenario that a special Christmas sale is held on December 24 regardless of a day of the week may be prepared as a circulative derivative scenario, and it may be performed prior to the usual circulative derivative scenario. Meanwhile, a derivative scenario as held only

one or two times a year has little meaning to be incorporated into a game program. Thus, such long-cycle circulative derivative scenario should be performed prior to a short-cycle derivative scenario.

FIG.4 shows a scene of the above-mentioned derivative scenario in which the destination of the ship changes every five minutes. In this scene, a boatman tells a hero " Now, it's bound for 'fire village'. The Destination changes every five minutes. Next, it's bound for 'water village'". The hero is a character for a player which can be moved by a key operation of the player. Since this game is a so-called role playing game, the player plays the hero in the game. When the hero wants to go the water village, he can kill time doing another thing while waiting, then coming back to the wharf after five minutes to get on board the ship for the water village. However, if ten minutes passed, the ship for the water village will have been started, then he must wait further ten minutes to go on board the ship for the water village. Since it is a real time that RTC ticks away, the player can play the game while looking his wrist watch or while looking a clock which can be displayed on the television screen by a key operation of the player. In this case, it is necessary for the player to watch the time to smoothly proceed the game.

Although the invention has been described with respect to specific embodiment for complete and clear disclosure, the appended claims are not to be thus limited but are to be construed as embodying all modification and alternative constructions that may be occurred to one skilled in the art which fairly fall within the basic teaching here is set forth.

Claims

1. A method of performing a plurality of derivative scenarios in a program for a home television game machine comprising the steps of:

generating a time;
generating a plurality of derivative scenarios according to the passing of the time; and
periodically changing between performance of derivative scenarios respective of a period of time.

2. A method according to claim 1, wherein the step of periodically changing between performance of derivative scenarios is such that the derivative scenarios circularly change upon the elapse of the period of time.

3. A method according to claim 1 or claim 2, wherein the period of time is one or more years, months, weeks, days of the week, hours, or seconds.

4.A method according to claims 1,2 or 3, further comprising the steps of:

generating a further derivative scenario; and
performing the further derivative scenario at a specific time.

5. A method according to claim 4, wherein the specific time is prior to the step of performing the plurality of derivative scenarios.

6. A method according to claim 4 or claim 5, wherein the further derivative scenario comprises periodically changing between performance of derivative scenarios respective to a second period of time.

7. A method according to claim 6, wherein the second period of time is one or more years, months, weeks, days of the week, hours, or seconds.

8.An apparatus comprising:

means for generating a time
means for generating a plurality of derivative scenarios according to the passing of the time; and
means for periodically changing between performance of derivative scenarios respective to a period of time.

9. An apparatus according to claim 8, wherein the means for periodically changing between performance of derivative scenarios is such that the derivative scenarios circularly change upon the elapse of the period of time.

10. An apparatus according to claim 8, further comprising:

means for generating a further derivative scenario; and
means for performing the further derivative scenario at a specific time.

11. An apparatus according to claims 8, 9 or 10, wherein the means for generating a time is provided in a main body of a game machine.

12. An apparatus according to claim 8, 9 or 10, wherein the means for generating a time is provided in a removable cartridge of a game machine.
